

ABSTRACT OF THE DISCLOSURE

An electrical switching topology for a hybrid switch provides extremely low losses in both cryogenic and non-cryogenic electronic systems. In this switch having switch modules connected in parallel, switching losses in a first module are separated from conduction losses in the parallel-connected second module. The conduction losses are then further reduced by cryogenically cooling the second module. Since the switching losses of the first module can be absorbed outside a cryogenic container, the switching losses do not add to the cryogenic heat load. In other applications, the switching module operates at lower temperatures to provide higher switching speeds and reduces switching heat generation.